In The Specification

Please replace the paragraph found on page 12, beginning on line 8 and ending on line 16 with the following replacement paragraph.

Figure 4 illustrates a modification of the embodiment of figure 3. In this case, a frame memory 19 is used at the dithering block level. The additional memory requirements are not so strong since the value to be stored is modulo τ, which is mainly around 4 for standard dithering in order to limit the temporal visibility of the dithering (low frequency). In that case, 2 bits per pixels are enough to store values that are modulo 4. For instance a WXGA panel will require 853x3x480x2=2.34 Mbit.

Please replace the paragraph found on page 2, beginning on line 17 and ending on line 29 with the following replacement paragraph.

One known solution to improve the quality of the displayed pictures is to artificially increase the number of displayed video levels by using dithering. Dithering is a known technique for avoiding [[to loose]] the loss of amplitude resolution bits due to truncation. However, this technique only works if the required resolution is available before the truncation step. Usually this is the case in most applications, since the video data after a gamma operation used for pre-correction of the video signal has 16-bit resolution. Dithering can bring back as many bits as those lost by truncation in principle. However, the dithering noise frequency decreases, and therefore becomes more noticeable, with the number of dithered bits.

Please replace the paragraph beginning on line 31 of page 2, and ending on line 14 if page 3, with the following replacement paragraph.

The concept of dithering shall be explained by the following example. A quantization step of 1 shall be reduced by dithering. The dithering technique uses the temporal integration property of the human eye. The quantization step may be reduced to [[0,5]] 0.5 by using 1-bit dithering. Accordingly, half of the time within the time response of the human eye there is displayed the value 1 and half of the time there is displayed the value 0. As a result the eye sees the value [[0,5]] 0.5. Optionally, the quantization steps may be reduced to [[0,25]] 0.25. Such dithering requires two bits.

For obtaining the value [[0,25]] 0.25 a quarter of the time the value 1 is shown and three quarters of the time the value 0. For obtaining the value [[0,5]] 0.5 two quarters of the time the value 1 and two quarters of the time the value 0 is shown. Similarly, the value [[0,75]] 0.75 may be generated. In the same manner quantization steps of [[0,125]] 0.125 may be obtained by using 3-bit dithering. This means that 1 bit of dithering corresponds to multiply the number of available output levels by 2, 2 bits of dithering multiply by 4, and 3 bits of dithering multiply by 8 the number of output levels. A minimum of 3 bits of dithering may be required to give to the grey scale portrayal a `CRT` look.

Please replace the paragraph found on page 3, beginning on line 23 and ending on line 29 with the following replacement paragraph.

The dithering most adapted to PDP until now is the Cell-Based Dithering, described in the European patent application EP-A-1 136 974 and Multi-Mask dithering described in the European patent application with the filing number 01 250 199.5, which improves grey scale portrayal but adds high frequency low amplitude dithering noise, both of which are hereby incorporated by reference herein. [[It is expressively referred to both documents.]]

Please replace the paragraph found on page 7, beginning on line 24 and ending on line 30 with the following replacement paragraph.

Furthermore, the application of the dithering function or pattern may be based on single luminous elements called cells of the display device [[. I.e.]] , i.e., to each colour component R, G, B of a pixel separate dithering numbers may be added. Such cell based dithering has the advantage of rendering the dithering noise finer and thus making it less noticeable to the human viewer.

Please replace the paragraph found on page 11, beginning on line 28 and ending on line 30 with the following replacement paragraph.

As to the sub-field coding, [[it is expressively referred to]] the [[already]] above mentioned European patent application EP-A-1 136 974 is hereby incorporated by reference herein.

Please replace the abstract of the specification with the attached replacement abstract.

~~In order to improve the picture quality of plasma display panels and to reduce differences to present CRTs dithering is used. However, the dithering pattern may appear on the retina for some movement having a spatio-temporal period similar to those from dithering. Therefore, it is proposed to use motion vectors coming from a motion estimator (14) in order to suppress the visibility of the dithering in case of motion. Then, for the viewer the quality of moving pictures will be similar to those obtained for static pictures.~~

~~(Fig. 3)~~

A method for processing video data for display on a display device having a plurality of luminous elements comprising: applying a dithering function based on single ones of said luminous elements to at least part of said video data to refine the grey scale portrayal of video pictures of said video data, computing at least one motion vector from said video data, and changing at least one of the phase, amplitude, spatial resolution and temporal resolution of said dithering function in accordance with said at least one motion vector when applying the dithering function to said video data.